

Briefing Statement

Bureau: National Park Service

Issue: Management of the White-Tailed Deer Herd

Park Site: Valley Forge NHP

Date: FY 06

Background: The impacts of growing white-tailed deer herds and their impacts in and around Valley Forge NHP has been a controversial issue for over a decade. The National Park Service (NPS) is working through a process to understand and identify appropriate scientifically-based actions to protect and manage resources within the 3,500-acre park. Should the decision be made to actively manage white-tailed deer, the NPS would work closely with the Pennsylvania Game Commission and the five surrounding townships. There is widespread recognition that management of deer densities in southeastern Pennsylvania must be undertaken on a regional basis. Nothing the park might do on its own could be fully effective.

Public Interest: Visiting biologists frequently comment on the poor condition of the park's forests and express concerns about the impairment of forest regeneration due to intense deer browsing. Neighbors immediately adjacent to the park note that their properties suffer undue damage from deer that consume landscape plants, as well as costs associated with the protection of the vegetation from deer. Park visitors and commuters express concern about driving through the park during daily and seasonal periods of peak deer movement. Public concern was such that in 2000, the U.S. Congress directed NPS to begin a process to address management. That process and its results are described below, under "Path to Management."

While public interest in reduction of the herd within the park is growing, the park also hears concern expressed by individuals and animal rights groups over the possibility and the means of management. Some members of the public value the locally high density of deer because it provides excellent wildlife viewing opportunities. Some are unaware of any adverse impacts that intense deer browsing has on wildlife habitat conditions. Some members of the public indicate that no form of management would be acceptable. Some indicate that methods such as birth control or catch-and-release would be acceptable, but not lethal reduction. The process of selection of a method and the final decision will be of great public interest and likely controversial.

Path to Management:

1. Studies of deer in the park are complete. One provided an accurate counting methodology that demonstrated the extremely high density of white-tailed deer in the park and also documented that local deer travel shorter distances and have smaller home ranges than expected. A long-term study of forest vegetation in the park documented the serious impact of deer browse on forest regeneration and composition. While both conditions seemed obvious to biologists conducting the research, this quantification and the long-term monitoring of these conditions is fundamental to the science-based approach to resource management that is required by law for federal lands.

2. A General Management Plan / Environmental Impact Statement is underway for the park. An early result is a proposed objective that the biological resources of the park will be managed to preserve and restore the natural abundances, diversities, dynamics, and distributions of native

plants and animal populations within the park's forests. This is an important and fundamental change in approach from the current GMP (1982), under which management for natural resource values was not considered. This objective must be reviewed by the public, other agencies, and the scientific community. If this or a similar standard is adopted as part of the Final GMP/EIS, a follow-up implementation plan will be developed.

3. The implementation plan would address the high deer density and consequential intense browsing of vegetation in the park as an impediment to achieving natural resource objectives. It would include consideration of a range of methods, including birth control, trap-and-release, lethal reduction, and other methods. Because of the very high level of public interest and controversy, an environmental impact statement will be necessary for selection of a method.

4. The selected method would be funded and implemented. Implementation is likely to be needed on an annual basis indefinitely.

In short, the path to management of the deer herd is:

- Establish clear management objectives for the natural landscape (draft GMP/EIS for public review; final GMP/EIS and Record of Decision)
- Complete credible scientific and historical research (completed)
- Develop alternatives and opportunities for public involvement through a deer management plan / EIS (estimated completion two years following completion of GMP/EIS)
- Implementation

Additional Information

Number of Deer in the Park

Deer density within Valley Forge NHP has been monitored since 1997 using a protocol developed by the Pennsylvania State University. The population has increased by an estimated 80% since 1997, with a spring 2005 estimate of 1,241 (+/- 59) deer within the park. The spring 2005 density of deer within the park was estimated at 248 deer per square mile. Scientists have documented that once densities of free-ranging deer rise above 18-20 per square mile, forest regeneration is compromised and populations of native plants and birds are compromised.



Deer exclosure, early Spring, showing native and non-native plants emerging within protected, fenced area (left); and largely denuded area outside fence (right)

Effects of Deer in the Park

- Browsing by white-tailed deer has significant negative impacts on the park's forests. Seedlings of native trees and shrubs are browsed or consumed before they grow taller than 10 inches. Many of the native forest wildflowers are also consumed. Deer browse intensely on native species and are far less interested in browsing on non-native seedlings and wildflowers, which allows for the growth and invasion of the park's forest by non-native vegetation. The park measures the impact of deer browse in the forests through monitoring of 30 fenced exclosures. The protected areas within the exclosures contain a robust range of maturing native tree and shrubs, while the unprotected lands lack maturing seedlings of native tree and shrub species. Although non-native species are found within the protected areas, they comprise a smaller proportion of the study plots as compared with the unprotected forest plots.
- An average of 100 vehicular accidents involving deer occur annually in the park.

Congressional Directive and NPS Response

- In June, 2000 Congress directed NPS to begin cultural and natural resource studies in order to develop a landscape management plan to address deer management at the park in the context of the cultural landscape
- To provide the required quantification of the deer population, the following studies were completed
 1. Cultural Landscape Inventory and Assessment.
 2. Archeological Overview and Assessment.
 3. Deer Home Range and Movement Study. This study is posted at www.nps.gov/nero/science.
 4. Deer density estimation completed every spring since 1997. Deer spotlight counts completed every fall since 1984, indicating population growth trends.
 5. Analysis of Understory Vegetation in Fenced and Unfenced Plots at Valley Forge National Historical Park, 1993-1998. Documents deleterious effect of browsing on vegetation. To be updated spring 2006.
- The General Management Plan / Environmental Impact Study currently underway will establish natural resource management objectives, including the goal of increasing biodiversity in the park. The abundance of deer would have to be managed in order to achieve this objective.

Policy / Law

- Public hunting is prohibited by law in all national park areas except those where Congress has explicitly allowed it in the legislation establishing those areas. Valley Forge NHP is not one of those areas.
- The park superintendent does not have the discretion to allow any direct control action without first going through a planning process that involves the identification of alternatives, an assessment of their environmental impacts, and extensive opportunity for public involvement (e.g., an environmental impact statement)
- The wildlife management policy for all national parks allows for population control of native populations only when the species is causing a direct conflict with other, explicit

management objectives and cannot be controlled by natural forces (*NPS Management Policies 2001*)

- Hence, each national park must go through its own analysis of its legislated mandate and the effects deer or other wildlife have on its ability to carry out that mandate. Different strategies may result in different parks. Valley Forge NHP's GMP process is providing this analysis.
- At Gettysburg National Battlefield, for example, NPS determined that deer were interfering with regeneration of historic woodlots, vital to the historic scene of that park. Because that park had established a clear management objective that the historic scene be preserved, it followed that the herd must be managed. After extensive research, a three-year EIS and public involvement process, a lawsuit and an appeal, and a second lawsuit, the NPS is reducing the deer population at Gettysburg.

Current Management Actions

Indirect strategies within the park's current authority are used:

- Enforcement of 35-mile speed limit on park roads, and seasonal posting of signs warning motorists where deer-vehicle collisions are most common
- Education of visitors and local residents on how to protect themselves from Lyme disease and how to reduce the attractiveness of their ornamental plantings to deer
- Working with PennDOT and local communities to slow and/or reduce through-traffic in the park

Contact: Mike Caldwell, Superintendent, 610-783-1037